

Appl. No. : 09/650,122
Filed : August 29, 2000

REMARKS

Claim 1 has been amended by incorporating the limitations of Claims 4 and 5. Claims 4 and 5 have been canceled. Claims 12-14 have been added. Support for Claims 12 and 13 can be found in Figs. 1(a) and 1(b), for example. Support for Claim 14 can be found in the paragraph bridging pages 7 and 8, for example. No new matter has been added. Applicants respectfully request entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.

Rejections Under 35 U.S.C. § 103

Claims 1 and 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Predhome Jr. Claim 1 has been amended to include the limitations of Claims 4 and 5, thereby obviating this rejection.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Predhome Jr and further in view of Hautau. Claim 4 has been canceled. Claim 1 includes the limitations of Claim 4 but further includes the limitations of Claim 5, and thus Claim 1 could not be rejected on this ground.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Adams in view of Predhome Jr and further in view of Phillips. Claim 5 has been canceled. Claim 1 includes the limitations of Claim 5 but further includes the limitations of Claim 4, and thus Claim 1 could not be rejected on this ground.

Additionally, the Examiner asserts that Predhome Jr. addresses the same problem of lifting a load as in the claim and thus is within the field of Applicant's endeavor. Applicant respectfully traverses the Examiner's position. Predhome Jr. concerns valve timing of valve trains. The valve lift involves simply opening and closing the valve. There are no considerations of sealing at both upper and lower positions, resistance to high pressure difference at both upper and lower positions, and high load lifting. Predhome Jr. thus does not teach or even suggest the co-axial structure of the cam structure and the actuator or the specific cam configurations.

Further, a combination of Predhome Jr. and Hautau is unreasonable. Predhome Jr. uses two cams, i.e., the primary cam (26, 30, 46) (shaft type) and the secondary cam (50) (cylinder type). Hautau uses the shaft type only, which is unrelated to the claimed structure (cylinder type). Furthermore, structurally, Predhome Jr. requires no support beam. It is unreasonable to

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add a support beam of an unrelated structure (Hautau) to a structure having no need of a support beam (Predhome Jr.). Clearly, there is no suggestion to combine these.

As shown in Philips, the use of an O-ring itself is not new. However, the use of an O-ring in combination with the cam structure for a load lock chamber is new. Philips in no way teaches a cam structure, and Predhome Jr. in no way suggests the use of an O-ring. Clearly, there is no suggestion to combine these.

Additionally, the Examiner asserts that removal of an element with a corresponding omission of function is held to be obvious with regard to Adams. Applicant respectfully traverses the Examiner's position. The claim is not simply drawn to an omission of an element. Because an element is omitted, a disadvantage or problem occurs, and a new element is added to solve the problem. Applicant asserts that the above combination is unobvious. Adams does not address any problems (high pressure difference, insufficient resistance thereto, high load on a lifting mechanism, etc.) which may occur if the two plates are omitted, and Adams does not suggest use of a cam structure. Predhome Jr. is remote from a load lock chamber and is irrelevant to such problems. There is no suggestion to combine these references.

Please note that "If a reference is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it." MPEP § 2141.01(a) (*In re Clay*, USPQ2d 1058, Federal Circuit 1992); further, "before the PTO may combine the disclosures of two or more prior art references in order to establish *prima facie* obviousness, there must be some suggestion for doing so, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art." (*In re Jones*, USPQ2d 1941, Federal Circuit 1992).

Thus, contrary to the Examiner's assertions, the claims could not be obvious over the combination of the references. Applicant respectfully requests withdrawal of the rejections.

New Claims

Claim 12 further recites that the vertical beam is disposed opposite to the cam follower with respect to the axis of the cam cylinder, the support cylinder, and the rotary actuator. Accordingly, by balancing the load between the cam follower and the vertical beam, even though the structure including the plate is heavy, bending of the cam cylinder and the support cylinder can be prevented.

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Claim 13 further recites that the groove spirals around substantially one circumference of the cylinder. This is especially advantageous when lifting heavy equipment.

Claim 14 further recites that the cam cylinder and the cam follower are made of indent treated carbon steel. This is especially advantageous when lifting heavy equipment.

The above-mentioned references are all silent as to the structures recited above. These new claims could not be obvious over the references.

CONCLUSION

In light of the Applicants' foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.


Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Dated: June 30, 2003

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